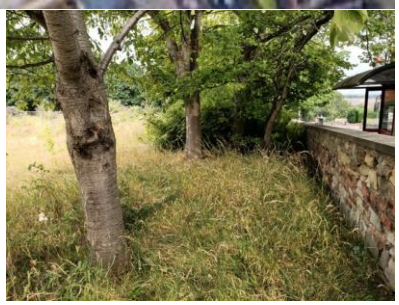
HABITAT MANAGEMENT & MONITORING PLAN

WEST BOLDON SCHOOL









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A. INTRODUCTION

E3 Ecology Ltd was commissioned by George F White to complete a Habitat Management & Monitoring Plan (HMMP) for proposals at the former site of West Boldon School. This was initially completed in March 2023 and submitted as part of the planning application.

To mitigate and compensate for the loss of onsite habitats and impacts to species/species groups, new and existing habitats on site will be enhanced and managed in the short and long term to promote their biodiversity interest.

The HMMP is intended to provide security that the proposed post-development habitats are successfully established and managed to achieve their targeted conditions as detailed in the Biodiversity Net Gain (BNG) Assessment report (submitted separately).

For the baseline in the initial submission, the 3022m^2 site provides 1.4510 habitat units, and 0 hedgerow units with all habitats assessed as moderate condition unless otherwise stated.

The BNG assessment indicated a predicted net loss of 0.3712 habitat units, constituting a change of -25.59% with a predicted net gain in hedgerow units of 0.2343. To offset this and achieve a net gain in biodiversity, a Section 106 agreement is in place to address the net loss through financial contributions to the council.

Following the original planning submission but prior to determination, the scheme and red line boundary were revised to include a small area for access, parking and a passing place to service the adjacent playing pitch to address concerns raised by Sport England. The applicant did not submit a revised EcIA, BNG metric calculation or BNG Assessment report to take account of this revision but it was agreed with the Planning Officer that to expedite a planning decision, a figure of 300m^2 of additional land to be impacted by the revised scheme was incorporated into the council's comments and calculations towards financial contributions for offsetting the final scheme for determination. For the purposes of this, it was assumed that the grassland to be impacted was the same type and condition as the other grassland habitats previously surveyed on site.

The HMMP consequently requires updating to reflect the final site layout, including this additional 300m^2 area, therefore this report has been updated in November 2023 accordingly.

A.1 SITE DETAILS

The site is located in West Boldon, at an approximate central grid reference of NZ 34899 61149. The survey boundary and setting are illustrated in the figures below.

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FIGURE 1: SURVEY BOUNDARY



FIGURE 2: 500M SITE SETTING

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A.2 DEVELOPMENT DETAILS

It is proposed to develop the site with 5 residential houses with associated landscaping.

Planning permission has been granted (ST/0139/22/FUL) and includes the below condition:

15. No dwelling hereby permitted shall be occupied unless and until a Habitat Management and Monitoring Plan has been submitted to and approved in writing by the Local Planning Authority. The contents of that plan shall accord with the requirements of BS8683:2021 – process for designing and implementing Biodiversity Net Gain – Specifications' including details of, but not restricted to, the following:

a) the project's biodiversity baseline assessment against which BNG outcomes are assessed and monitored;

b) the project's BNG targets;

c) the number of years to achieve and then maintain the BNG targets which shall comprise a continuous period of at least 30 years from first occupation of the development;

d) a programme detailing the long-term phases of the management and monitoring activities;

e) a monitoring plan to inform decisions about management, whether assessing progress towards the BNG targets is on track and whether changes to management are required to achieve the targets;

f) the roles, responsibilities and required competencies of those involved with implementing and monitoring the BNG design during the implementation and post-implementation stages;

g) provision for any approved landscaping that is removed, dies or becomes seriously diseased within the agreed timescales for achieving and maintaining the BNG targets to be replaced in the next planting season with landscaping of similar size and species to that which it replaces.

Thereafter the Habitat Management & Monitoring Plan shall be carried out/implemented as approved and in accordance with the approved timetables.

Reason: To ensure a satisfactory standard of development in the interests of visual amenity and biodiversity in accordance with NPPF and Policies DM1, DM7 and EA3 of the South Tyneside Local Development Framework.

Indicative landscaping proposals are shown in the figure below:

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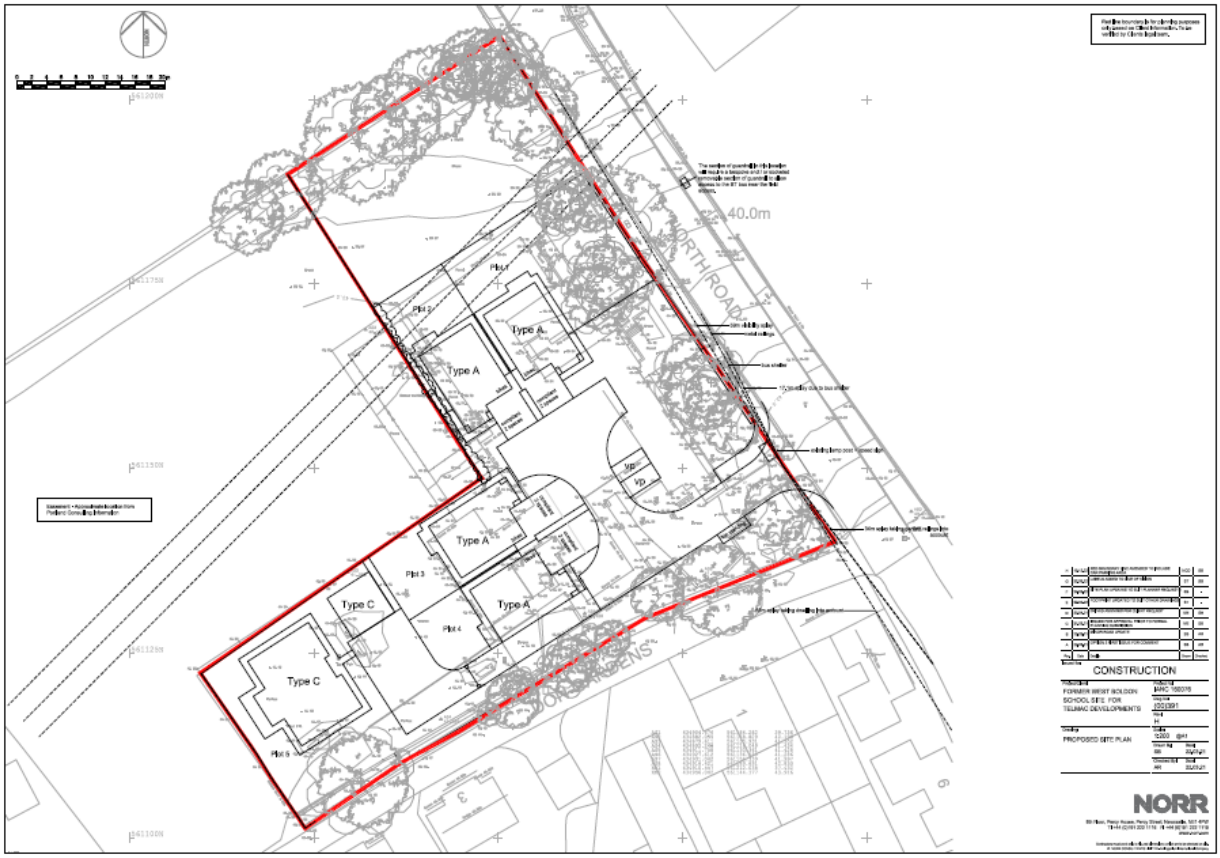


FIGURE 3: DEVELOPMENT PROPOSALS

The landscaping includes:

- 1467 m^2 New buildings and hardstanding areas
- 390m^2 Retained grassland with oversowing of species-rich seed mix
- 961 m^2 Vegetated gardens
- 204m^2 of modified grassland
- 35m of new native species hedges
- New tree planting of 5 small trees
- 8 small and 8 medium retained trees
- Additional:300m^2 of Ground Track surface treatment in land to the north, outside of original BNG boundary

A.3 MANAGEMENT PLAN OBJECTIVES

The objectives of this management plan are to:

- Describe and evaluate the ecological features to be managed, the BNG baseline and targets and the ecological trends and constraints that may influence management.
- Detail the measures required to create and manage new habitats and enhance existing habitats to promote their biodiversity interest.
- Outline monitoring, reporting and contingency measures to ensure successful habitat establishment and management to achieve required the targeted BNG habitat conditions.
- Detail relevant stakeholders and their roles and responsibilities.

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B. BASELINE ECOLOGICAL INFORMATION

An ecological appraisal of the site was updated in July 2022 in order to inform the planning application process. A Biodiversity Net Gain Assessment was also submitted, detailing the baseline and proposed biodiversity values and anticipated net change associated with the development. A summary of the survey findings is provided below.

B.1 HABITATS

The site is dominated by ephemeral/tall ruderal vegetation with grassland and bare ground patches. Small areas of introduced shrub are present, indicating the presence of former ornamental beds. A number of semi-mature trees, many with Tree Preservation Orders, are present around the south and east of the site and continue around the periphery of the former school field extending to the north and west, outside of the site boundary.



FIGURE 4: HABITAT MAP

B.2 SPECIES

The proposed development site is considered of up to local value for birds, hedgehog and foraging/commuting bats. Other protected and priority species are considered likely to be absent.

Detailed mitigation measures for protected species are provided within the separately submitted EcIA, which include restrictions on external lighting, working under method statements and restrictions on vegetation clearance with regard to nesting birds.

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C. BNG Assessment Targets & Requirements

A BNG Assessment is separately submitted, but the post-development habitats and conditions to be targeted which are covered by this management plan are as follows:

- Vegetated garden – Condition assessment NA (to be initially established as lawn)
- Modified grassland (new grassland planting) – assessed as moderate condition
- Modified grassland (existing grassland under trees) – assessed as moderate condition and will be enhanced through over-seeding of wildflowers, but not sufficient to increase the condition to good.
- Native hedgerow – assessed as moderate condition
- Tree planting – small trees assessed as moderate condition

An additional 300m^2 area is also included in the site and this management plan since the initial submission of the BNG assessment, as previously discussed.

Specific measures to achieve these conditions, based on the relevant Biodiversity Metric condition assessment sheets, are included within the relevant habitat sections later in this report.

Developing BNG guidance requires on-site gains (e.g. habitat creation and enhancements) to be delivered within 12 months of the start of construction. If this is not possible, they must be provided before occupation.

“As built” plans will be provided by the developer on completion of construction, and an accompanying updated biodiversity metric submitted to the Local Planning Authority to demonstrate net gain delivery post-construction. Monitoring of habitat establishment and management is then to be completed with reports submitted to the LPA following these (see later in report).

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D. INITIAL HABITAT CREATION & ENHANCEMENT MEASURES

Each habitat on site will require a certain level of establishment, maintenance and monitoring to ensure that they are providing the ecological functions required of them. This section details the habitats being retained or created as shown in Figure 3.

All preparatory creation works and seeding should be as per the seed/plant suppliers specifications and any other specifications provided by landscape architects. Indicative guides to habitat creation are described below. All works should be undertaken to the relevant British Standards where applicable.

D.1 SPECIES RICH WILDFLOWER GRASSLAND (SEMI-SHADE TOLERANT MIX)

Areas to the east and south under the existing trees are proposed to be overseeded with a species-rich wildflower grassland that is semi-shade tolerant.

A key principle of wildflower grassland establishment and management is ensuring nutrient-poor soil conditions. Whilst this is generally achieved by soil selection or inversion, this is not appropriate when planting under trees as this would result in damage to roots. In this case, the seed bed should be prepared by removing weeds first and carefully exposing the soil by lightly raking to expose some bare ground within the grassland, taking care to minimise damage to roots by not digging/raking too deep.



FIGURE 5: WILDFLOWER GRASSLAND PROPOSALS

D.1.1 ENHANCEMENT OF EXISTING GRASSLAND

D.1.1.1 GROUND PREPARATION

Any pernicious weeds, such as docks, thistles or nettles, will be spot-treated with a glyphosate-based herbicide at least two weeks prior to cutting, ideally in late-summer.

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Existing grassland areas must then be cut to 30-50mm height, with all arisings removed or placed in a pre-agreed small sacrificial area (as outlined in the grassland management section below).

The grassland will then be raked during the autumn to break up the thatch and expose ~50% bare ground.

D.1.1.2 SEEDING

Once ground preparation works are complete, existing grassland areas will be over-sown with Emorsgate EH1F Hedgerow Mixture.

Seeds will be sown at the recommended sowing rate given by the supplier (e.g. 1.5g/m^2).

The most reliable establishment is obtained from autumn, or if not possible then early spring, sowings into a warm soil. If this is not possible, sowing may be undertaken in mid to late spring, but supplemental watering may be required. It is not recommended that the area be sown in the winter or summer. Sowings on ground prone to winter flooding are safest either in late summer or in spring once the land has drained. Most plants need time to grow mature enough to withstand flooding.

The seeds should be surface-sown and can be applied by machine, seed fiddle or broadcast by hand. No attempt should be made to bury the seed.

The sown area will be cordoned off by high visibility tape or similar until the seed has set to prevent trampling.

D.2 TREES

Five new trees will be planted in the east of the site with all existing trees retained and their roots and crowns protected. As all trees on site are under a Tree Preservation Order, the protection measures outlined in the separate Arboricultural Method Statement, Tree Constraints Plan, Tree Protection Plan, and Fencing Specification by Elliott Consultancy Ltd. and any relevant planning conditions should be carefully followed.

D.2.1 GROUND PREPARATION

Suitable ground preparations will depend on the previous area use. Areas of grassland can be short-mown to 20mm and then planted, whilst densely compacted soils will require decompaction prior to planting. This may be achieved by a tractor with a ripping attachment, for example a mole plough or similar, which can decompact soils when used in dry conditions. Areas of existing hardstanding will require breaking up and removal of the hardstanding, taking care not to damage retained tree roots/crowns and liaising with an arborist prior to commencement on any impacts resulting from level changes. Good quality topsoil may be required in former compacted or hardstanding areas to provide a suitable growing layer for new tree establishment.

D.2.2 PLANTING

Planting is best undertaken in mid-autumn to late winter, during periods when the soil is easily workable and bare-root stock is available (November to March).

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All species will be of local provenance and native cultivars where possible.

A selection of the following native tree species will be planted:

Common name	Scientific name
Crab apple	*Malus sylvestris*
Field maple	*Acer campestre*
Silver birch	*Betula pendula*
Wild cherry	*Prunus avium*
Rowan	*Sorbus aucuparia*

Plants will be planted into 'slits or notches' as bare-root, 60-80cm transplants in 60cm shelter guards/tubes/spirals or equivalent, with a minimum 75cm stake, ensuring that the main or terminal bud is protruding out above the top of the shelter guard/tube/spiral.

Unwanted weed growth will be controlled through the use of tree spats/mulch mats, composted mulch or similar. This control should cover at least 1m diameter around the newly planted tree. Chemical use will be avoided if possible.

D.3 HEDGES

A new native species-rich hedgerow will be planted in the east of the site.

D.3.1 GROUND PREPARATION

Suitable ground preparations will depend on the previous area use. Areas of grassland can be short-mown to 20mm and then planted, whilst densely compacted soils will require decompaction prior to planting. This may be achieved by a tractor with a ripping attachment, for example a mole plough or similar, which can decompact soils when used in dry conditions. Areas of existing hardstanding will require breaking up and removal of the hardstanding, taking care not to damage retained tree roots/crowns and liaising with an arborist prior to commencement on any impacts resulting from level changes. Good quality topsoil may be required in former compacted or hardstanding areas to provide a suitable growing layer for new hedgerow establishment.

D.3.2 PLANTING

Plants should be planted at a rate of six per linear metre, in staggered rows 30cm apart.

Planting is best undertaken in mid-autumn to late winter, during periods when the soil is easily workable and bare-root stock is available (November to March).

All species will be of local provenance and native cultivars where possible.

A selection of at least five of the below species (ideally more) will be planted. Generally hawthorn should be the highest proportion of planting (~40%), with blackthorn (~20%), hazel and holly (10%) at lower proportions and all other species included at a maximum of 5%.

Common name	Scientific name
Hawthorn	*Crataegus monogyna*
Blackthorn	*Prunus spinosa*
Hazel	*Corylus avellana*

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Holly	*Ilex aquifolium*
Dog rose	*Rosa canina*
Field rose	*Rosa arvensis*
Guelder rose	*Viburnum opulus*
Crab apple	*Malus sylvestris*
Field maple	*Acer campestre*
Wild privet	*Ligustrum vulgare*
Wych elm	*Ulmus glabra*
Elder	*Sambucus nigra*

Plants will be planted into 'slits or notches' as bare-root, 60-80cm transplants in 60cm shelter guards/tubes/spirals or equivalent, with a minimum 75cm stake, ensuring that the main or terminal bud is protruding out above the top of the shelter guard/tube/spiral.

Unwanted weed growth will be controlled through the use of tree spats/mulch mats, composted mulch or similar. This control should cover at least 1m diameter around the newly planted hedge. Chemical use will be avoided if possible.

D.4 AMENITY GRASSLAND

Areas of amenity grassland lawns will be created on site around the buildings.

D.4.1 GROUND PREPARATION

First remove weeds using repeated cultivation or using herbicide. Plough or dig to bury any surface trash, then cultivate the soil with a rotovator, harrow or rake to produce a medium tilth. Ideally after this initial cultivation and levelling, leave the ground to settle for several days or weeks. If densely compacted soils are present, these will require decompaction prior to planting. This may be achieved by a tractor with a ripping attachment, for example a mole plough or similar, which can decompact soils when used in dry conditions. Areas of existing hardstanding will require breaking up and removal of the hardstanding, taking care not to damage retained tree roots/crowns and liaising with an arborist prior to commencement on any impacts resulting from level changes. Good quality topsoil may be required in former compacted or hardstanding areas to provide a suitable growing layer for new grassland establishment.

D.4.2 SEEDING

The seed will be sown following the guidance provided by the supplier, which will be dependent upon the species mix.

The most reliable establishment is obtained from spring or autumn sowings into a warm soil. If this is not possible, sowing may be undertaken in mid to late spring, but supplemental watering may be required. It is not recommended that the area be sown in the winter or summer.

The seed should be sown at the appropriate rate given by the supplier. The seeds should be surface-sown and can be applied by machine, seed fiddle or broadcast by hand. The area should be lightly rolled or raked to consolidate the ground to ensure the seeds are in good contact with the soil. No attempt should be made to bury the seed.

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The sown area will be cordoned off by high visibility tape or similar until the seed has set to prevent trampling.

D.5 CAR PARK TO NORTH

A 300m^2 area of species poor semi-improved grassland will be lost to the north of the development to facilitate the creation of a car park through installation of GroundTrax ground reinforcement. This will allow the grass to grow through but will not require management.
This area will be seeded with a flowering lawn mixture such as Emorsgate EL1 Flowering Lawn Mixture or similar

D.5.1 GROUND PREPARATION

Any pernicious weeds, such as docks, thistles or nettles, will be spot-treated with a glyphosate-based herbicide at least two weeks prior to cutting, ideally in late-summer.

Existing grassland areas must then be cut to 30-50mm height, with all arisings removed or placed in a pre-agreed small sacrificial area (as outlined in the grassland management section below).

The grassland will then be raked during the autumn to break up the thatch and expose ~50% bare ground.

A nutrient poor topsoil will be applied to the existing grassland into which the flowering lawn mix will be sown.

D.5.2 SEEDING

Once ground preparation works are complete, existing grassland areas will be seeded with a flowering lawn mixture such as Emorsgate EL1 Flowering Lawn Mixture or similar.

Seeds will be sown at the recommended sowing rate given by the supplier (e.g. 4g/m^2).

The most reliable establishment is obtained from autumn, or if not possible then early spring, sowings into a warm soil. If this is not possible, sowing may be undertaken in mid to late spring, but supplemental watering may be required. It is not recommended that the area be sown in the winter or summer. Sowings on ground prone to winter flooding are safest either in late summer or in spring once the land has drained. Most plants need time to grow mature enough to withstand flooding.

The seeds should be surface-sown and can be applied by machine, seed fiddle or broadcast by hand. No attempt should be made to bury the seed.

The sown area will be cordoned off by high visibility tape or similar until the seed has set to prevent trampling.

D.6 ADDITIONAL MEASURES

Fly-tipping, litter and discarded materials will be removed from the site.

The following additional habitat creation measures will be completed:

- Five integrated bird next boxes suitable for a range of urban bird species on elevations facing north, north east or north west.

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- Four integrated bat boxes suitable for crevice dwelling species on south west elevations
- Close boarded and security fences that are flush with the ground will be avoided, or gaps 13cm x 13cm will be provided in fences to allow hedgehog to forage across the site.



FIGURE 6. INDICATIVE BAT AND BIRD BOX PLAN

E. ONGOING HABITAT MANAGEMENT

This section details the specific management requirements for each created habitat in the long term operation of the site.

E.1 WILDFLOWER GRASSLAND

E.1.1 FIRST YEAR - NEWLY CREATED GRASSLAND

There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath. This annual weed growth can be controlled by spot treatment using a glyphosate-based herbicide, though it will offer shelter to the sown seedlings below and will die out before the end of the year.

Cutting of newly sown, first year grassland would ideally be undertaken in August and September to control weed growth.

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The grassland will be cut to 40-60mm and arisings will be removed from site or placed in a pre-agreed designated sacrificial area.

Following the August/September cut, the grassland will be cut monthly until November. Any residual perennial weeds (docks, thistles, nettles etc) will be removed by hand.

E.1.2 Long-Term Management of Established Grassland

For newly created grassland in its second year onwards, or for enhanced existing grassland, the areas will be managed with a late-summer cut to 40-60mm (late July to early August), typical of a main hay cut, thereby allowing sown species to flower in June and July.

If possible, the arisings will be left in situ for several days to allow seed drop before removal. They will then be removed from site or placed in a pre-agreed designated sacrificial area.

Additional 'aftermath' cuts will be undertaken during the autumn/winter period, as required, to remove excess grass growth and promote wildflower regeneration. A minimum of two cuts will be undertaken during this period, maintaining a sward height of 40-60mm over the winter period.

Following cuts, all arisings will be removed from site or deposited within designated sacrificial areas on site (but do not require leaving for several days for seed drop).

Weed growth in spring will be monitored and if it is considered that it should be controlled, an additional similar cut and removal of arisings will be completed.

No fertilisers, pesticides or broad-spectrum herbicides will be used on site other than for spot treatment, though removal by hand should always be preferred.

E.1.3 Additional Measures Required for Targeted BNG Condition

Grassland areas will be monitored, with the below factors and requirement for contingency measures considered:

- Any bracken or scrub (e.g. bramble or thorny shrubs) that develops within the grassland will be removed as and when they appear.
- The grassland will be monitored annually for non-native invasive species (e.g. Himalayan balsam, cotoneaster, Japanese knotweed, Japanese rose, montbretia, giant hogweed etc.) and these will be removed if found using best practice guidance.
- If any of the following species establish themselves within the grassland areas such that they collectively constitute over 5% of the grassland coverage, they will be spot treated with herbicide or eradicated by regular hand-pulling: spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens*, cow parsley *Anthriscus sylvestris.*
- The amount of physical damage to the grassland areas will be monitored annually in summer and if affecting more than 5% of the grassland area, sections will be cordoned off to allow the grassland to recover from public access.

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E.2 TREES AND HEDGES

E.2.1 TREE ESTABLISHMENT PERIOD (FIRST FIVE YEARS)

Within the first 5 years newly planted trees will be monitored to ensure successful establishment and will be well-watered in the first year in periods of dry weather in summer. Any failed, dead, or dying trees will be replaced on a like-for-like basis, utilising native species sourced from a local provenance where necessary. Planting is to be undertaken as per the specifications earlier in this report.

In year 3 following planting, any damaged shelter guards/tubes/spirals will be removed if appropriate. Removing at this stage means that they are unlikely to have split and can therefore be re-used elsewhere. Any that are split/broken but are still required will be replaced as necessary. This process will again be repeated in year 5, but it is anticipated that they will not require replacement.

Where appropriate, management of ruderal vegetation and pernicious weeds will be undertaken to ensure that saplings and young trees are not outcompeted. Treatment of pernicious weeds and vegetation management will be undertaken using approved methods and best practice guidance. If required, the use of a glyphosate-based herbicide will be applied directly to actively growing weeds (April – October) within 1m of the trees. The use of herbicides will damage and/or kill plants which come in contact with the chemical, therefore spray drift must be minimised, and operations carried out by suitably trained individuals.

E.2.2 HEDGE ESTABLISHMENT PERIOD (FIRST FIVE YEARS)

Within the first 5 years newly planted hedge species will be monitored to ensure successful establishment and will be well-watered in the first year in periods of dry weather in summer. Any failed, dead, or dying hedge species will be replaced on a like-for-like basis, utilising native species sourced from a local provenance where necessary. Planting is to be undertaken as per the specifications earlier in this report.

In year 3 following planting, any damaged shelter guards/tubes/spirals will be removed if appropriate. Removal at this stage means that they are unlikely to have split and can therefore be re-used elsewhere. Any that are split/broken but are still required will be replaced as necessary. This process will again be repeated in year 5, but it is anticipated that they will not require replacement.

Where appropriate, management of ruderal vegetation and pernicious weeds will be undertaken to ensure that saplings and young hedge species are not outcompeted. Treatment of pernicious weeds and vegetation management will be undertaken using approved methods and best practice guidance. If required, the use of a glyphosate-based herbicide will be applied directly to actively growing weeds (April – October) within 1m of the hedge species. The use of herbicides will damage and/or kill plants which come in contact with the chemical, therefore spray drift must be minimised, and operations carried out by suitably trained individuals.

Once the young hedgerow is established and growing unimpeded by weeds it can be trimmed twice in years 1-5, taking off only a few inches of growth to encourage the stems to branch out the following season.

Hedgerow and tree pruning will take place outside of the nesting bird season (March-August inclusive).

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E.2.3 LONG-TERM HEDGE MANAGEMENT

Established hedgerows over 5 years old will be cut on a cycle of one third of total hedgerow length cut each year. Initially they will be cut to a least 1.4m in height and incremental growth should be allowed for, which will be achieved by adjusting the height of subsequent cuts on a rotational basis (+10-15cm with every cut). The main objective should be to establish a thick, dense hedgerow of at least 2m high and 2m wide.

Hedgerows will be cut in late-January to February, such that berries and shelter are available to wildlife throughout most of the winter. They will not be cut from March – August inclusive during the bird nesting season.

E.2.4 LONG-TERM TREE MANAGEMENT

From year 5 onwards, trees will generally require little management other than to address specific health and safety concerns. Any subsequent management should be designed and agreed with a suitably experienced arborist.

E.2.5 ADDITIONAL MEASURES REQUIRED FOR TARGETED BNG CONDITION

The scrub/hedgerows will be monitored, with the below factors and requirement for contingency measures considered:

E.2.5.1 HEDGEROWS

- Hedge dimensions will be managed as per the specifications in this report.
- If significant gaps develop at the base of the foliage (over 50cm high), consideration will be given to laying hedges to create a thicker, more dense hedge. If this cannot be achieved, the project ecologist should be consulted to assess the impact on projected biodiversity values.
- If any horizontal gaps develop in hedges, these will be replanted with the native species recommended in this report.
- If nettles, cleavers and docks establish along the hedgerow base to cover over 20% of the hedgerow length, they will be removed by hand or carefully using a glyphosate-based herbicide.
- Any invasive non-native species identified through monitoring will be removed in accordance with best practice guidance.

E.3 **AMENITY GRASSLAND**

The frequency of cuts will be undertaken as and when required, in perpetuity, with the sward height cut to a desired length, usually around 50mm. These areas will not specifically be managed for wildlife.

All arisings will be removed from amenity areas following cutting and disposed of using an appropriate means.

E.3.1 ADDITIONAL MEASURES REQUIRED FOR TARGETED BNG CONDITION

Grassland areas will be monitored, with the below factors and requirement for contingency measures considered:

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- Any bracken or scrub (e.g. bramble or thorny shrubs) that develops within the grassland will be removed as and when they appear.
- The grassland will be monitored annually for non-native invasive species (e.g. Himalayan balsam, cotoneaster, Japanese knotweed, Japanese rose, montbretia, giant hogweed etc.) and these will be removed if found using best practice guidance.
- The amount of physical damage to the grassland areas will be monitored annually in summer and if affecting more than 5% of the grassland area, sections will be cordoned off to allow the grassland to recover from public access.

E.4 ADDITIONAL MANAGEMENT MEASURES

Litter picks will be undertaken at regular intervals throughout the year, at least quarterly.

No specific management is required for the GroundTrax area, though if cutting is required this may be in line with section E.3.

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F. RESPONSIBILITIES, MONITORING & REMEDIAL MEASURES

F.1 RESPONSIBILITIES

F.1.1 INITIAL ECOLOGICAL PROTECTION MEASURES, HABITAT CREATION & ENHANCEMENTS

The site owner/developer will be responsible for appointing and overseeing suitably qualified/experienced contractors to carry out the initial works at the time of the development in accordance with this HMMP. They will also be responsible for ensuring that ecological supervision is in place for any works which require it.

F.1.2 FUTURE HABITAT MANAGEMENT, MONITORING AND REMEDIAL MEASURES

Establishment and long-term habitat management, including the need for monitoring and remedial measures, will be the responsibility of the site owner/developer and their appointed management company. They will also be responsible for ensuring that ecological monitoring and advice is arranged as and when required.

F.2 MONITORING, HMMP REVIEWS AND REMEDIAL MEASURES

"As built" plans will be provided by the developer on completion of construction (these may be the same as proposed plans).

An accompanying updated biodiversity metric submitted to the Local Planning Authority to demonstrate that net loss is no greater than initially projected with a section 106 agreement in place to address any shortfalls in net gain.

An annual meeting will be held in late summer to winter between the site owners and appointed management company to discuss success of habitat establishment and address any specific management issues or requirements in line with this HMMP.

Monitoring will be undertaken by the project ecologist on completion (to inform the updating metric), and then in years 2, 5, 10, 20 and 30, or as otherwise agreed with the LPA, with monitoring reports to include recommendations for remedial actions to ensure that the agreed habitats and habitat condition are achieved. These reports will be submitted to the LPA ecologist.

Any revisions to the HMMP, including all remedial actions and action timeframes, will be made by mutual agreement of the interested parties (site owner/ appointed contracted landscape operator/ LPA and an appropriately qualified ecologist), with all management actions recorded and records retained. This will enable an assessment to be made of success, or otherwise, of the various techniques and operations undertaken at the site.

F.3 FINANCIAL RESOURCES

The site owners will be responsible for ensuring that adequate financial resources are available to undertake the necessary management, monitoring and remedial operations on a year-by-year basis.

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G. MANAGEMENT SCHEDULE

ACTIVITY	DESCRIPTION	TIMINGS
Initial habitat creation/enhancement works – carried out by appointed contractors		
Wildflower grassland creation/enhancement	As per section D.1. Ground preparation to be completed ahead of seeding.	During the development, spring or autumn.
Tree/Hedge Planting	As per section D.2 and D.3. Including use of stakes, shelter guards/tubes/spirals and weed suppression.	During the development, planting ideally between November and March.
Amenity grassland seeding, creation of GroundTrax area, and ornamental shrub planting	As per supplier instructions and section D.4.	During the development.
Incorporation of bird and bat boxes within buildings	As specified in section D.5	During construction.
*Submission of "as built" BNG plan to LPA.		Once initial landscaping measures in this plan have been completed.
Ongoing management and monitoring – carried out by the site owners or appointed management company		
Weed suppression of wildflower grassland areas	In first year following creation, as per section E.1	Spring in first growing season.
Cutting of wildflower grassland areas	1st year cut with cuttings removed, as per section E.1.1 2nd year onwards, mid-late summer cut and removal of cuttings, as per section E.1.2 If weed growth is significant in spring, another similar cut and removal of cuttings.	Monthly in August, September, October, November in first growing season. From second growing season onwards, cut in late July to early August, then at least two "aftermath" cuts during autumn to end of winter to maintain sward height. Spring (if required)
Tree and hedge monitoring, replacement (if required), maintenance/replacement of tree guards and weed suppression	As per section E.2.	Monitoring every season of growth/establishment in first 5 years. If replacement planting required, November to March. Check and replacement/removal of tree guards in years 3 and 5. If herbicide is to be used to control weed growth, April – October.
Subsequent pruning/trimming of trees and hedges	As per E.2	Outside of bird nesting season, preferably late winter (January - February).
Amenity grassland and GroundTrax area cutting	Not specifically managed for wildlife	As and when required

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Litter picks of all areas	Regular intervals.	At least every quarter, annually, including all areas of site.
Meeting between site owners and appointed management company	See section F.2.	Annually, ideally in late summer
Ecological monitoring survey to assess success and how works correspond to approved BNG & HMMP reports.	See Section F.2. Including BNG monitoring reports to be sent to LPA	Years 2, 5, 10, 20 and 30 following completion or as otherwise agreed with the LPA

H. CONCLUSION

Once implemented and established, the habitat creation, enhancement and management detailed within this HMMP will ensure that the development will result in a net loss no greater than initially projected with a section 106 agreement in place to address any shortfalls in net gain and has contingency measures in place if habitat measures are not initially successful.

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APPENDICES

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